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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,549	07/13/1999	HANNU KARI	10178.115USW	5267

32294 7590 04/25/2003
SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 04/25/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

11

Office Action Summary	Application No.	Applicant(s)	
	09/341,549	KARI ET AL.	
	Examiner	Art Unit	
	Derrick W. Ferris	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/6/1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. **Claims 1-19** as amended are still in consideration for this application. Applicant has amended claim 1.
2. Examiner **withdraws** the 112-first paragraph rejection for Office action filed 8/27/03 in reference to line item 2. Examiner notes applicant's specification merely recites that it is possible to transmit a parameter representing the service situation (i.e., QoS parameter) over either a broadcast or a point-to-multipoint channel without disclosing how such a parameter could be transmitted. However, examiner agrees with applicant that the concept as claimed by applicant is well known in the art and thus would have been obvious to implement hence the examiner has withdrawn the rejection.
3. Examiner does **not withdraw** the obviousness rejection to *Chakraborty* and *Chakraborty* in view of *Hayman et al.* for Office action filed 8/27/03 in reference to line item 3-5. At issue is indicating and representing an overall service situation which is not clearly defined by applicant (see 112-second paragraph rejection below). Examiner notes that *Chakraborty* discloses dynamic QoS negotiation [Section VII. D. on page 1939]. Specifically, *Chakraborty* discloses: "Since the network will have better knowledge of the changing environment of a communication terminal, a dynamic QoS negotiation and flow control at the network boundary appears to be necessary". Examiner notes a reasonable but broad interpretation of "overall" with respect to applicant's claims as amended (see 112-second paragraph rejection and the further clarified obviousness rejection).

4. Examiner **withdraws** the obviousness rejection to *Brigida et al.* for Office action filed 8/27/03 in reference to line item 6. Examiner agrees with applicant that the reference may not clearly recite a distinction between wireless and wireline and has therefore withdrawn the rejection.
5. Examiner **withdraws** the obviousness double patenting rejection to for Office action filed 8/27/03 in reference to line item 7-8.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear in light of applicant's specification on what applicant means by "overall service situation" as recited in claim 1, lines 1 and 6. As claims 2-19 depend on claim 1, these claims also stand rejected. Specifically, examiner assumes that by "overall" applicant is referring to determining the parameter for more than one QoS class as disclosed in applicant's specification on page 6, lines 14-24 which recites the following:

"In order that the user of the terminal equipment or the application program executed therein could make objective decisions concerning the change of the service quality, it is advantageous that said parameter is determined in more than one class for the quality of service. If the parameters are sent to all terminal equipments at the same time (e.g., broadcast or multicast), it is most advantageous to send simultaneously the parameters representing the situation of all the classes for the quality of service. If the parameters

Art Unit: 2663

are instead sent individually to the terminal equipments, capacity may be saved by sending primarily only the parameters representing the situation of the upper and lower classes for the quality of service in addition to the quality of service used at each time."

Thus for the purpose of the prior art rejections, examiner is assuming that applicant's definition of "overall" is having a parameter that is determined in more than one class for QoS. Should this assumption be incorrect, applicant is strongly encouraged to point out the definition of "overall" with respect to applicant's written specification and/or drawings in order to avoid introducing new subject matter.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-3,7-8,9-11,13-15 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over "Mobile Multimedia: In Context to ATM Transport and GSM/GPRS Mobile Access Networks" by S.S. *Chakraborty* in further view of "ATM Traffic Management Specification Version 4.0" to ATM Forum and U.S. Patent No. 6,031,832 to *Turina*.

As to **claim 1**, *Chakraborty* discloses in figure 2 [page 1941] a packet radio network comprising of at least one base station and at least one mobile terminal shown in the figure. The solution proposed by *Chakraborty* is an internetworking function (IWF) in the base station in order to provide the necessary translation between two disparate

networks (i.e., a wireless network and a terrestrial network) [page 1938, lower-right column; page 1939, lower-left column (emphases placed on “Dynamic QoS Negotiation and Flow Control”]. As shown in the figure, a header (or trailer) is added or removed depending on the type of media (e.g., data sent between a mobile terminal and a base station over the wireless network using a wireless header and trailer for cell encapsulation. Noted in table 1 [page 1940] are various levels of service requested between a user (i.e., mobile terminal) and the network. Also noted specifically is lower available bandwidth and other QoS parameters available in the mobile air interface [page 1937, middle-right column]. Thus, quality of service (QoS) is performed between a mobile station and base station (as shown in figure 2) as is well known in the art using a scaled down version of ATM.

Not clearly shown in the reference is supplying the “overall” parameter(s) to the use of terminal equipment (e.g., a mobile terminal). Examiner notes that this would have been obvious to a skilled artisan prior to applicant’s invention in light of the teachings of *Chakraborty*. *Chakraborty* proposes a solution of using an internetworking function between two disparate networks (i.e., the wireless and terrestrial networks). As disclosed, this information can either be transported as pure ATM or hybrid ATM (i.e., removing the ATM header and adding a wireless header or trailer as shown in the figure). Such that in either case the ATM quality of service could be preserved as would be recognized by a skilled artisan where ATM inherently incorporates different classes of service (e.g., CBR, VBR and ABR). Specifically, examiner notes that one skilled in the art knows that service parameters may pertain to more than one ATM QoS class. To

Art Unit: 2663

further support this statement examiner notes many parameters that pertain to more than one ATM QoS class as defined per ATM Traffic Management 4.0 Specification (af-tm-0056.000); for example, as disclosed on page 57 of the specification. These parameters are fully supported in view of *Chakraborty* since both references teach ATM and *Chakraborty* further teaches that QoS parameters may follow closely to the wireline counter part [Section II A. on top of page 1938]. Should this assumption be improper, examiner also notes that *Turina* in U.S. Patent No. 6,031,832 discloses in the background that "As such, both the uplink and downlink packet traffic are thus subject to variable quality of service (QoS), which can be expressed in terms of both variable time delays and decreased throughput" [column 3, lines 20-28]. Thus *Turina* also discloses that the overall service can be represented (i.e., expressed) in terms of variable time delays (e.g., propagation delays) and decreased throughput (i.e., parameters such as variable time delays that represent the overall service situation). As both *Chakraborty* and *Turina* discloses wireless communications in general, and more specifically improving performance using QoS for a GSM network, examiner notes a motivation to combine the subject matter as a whole for both references.

As to **claims 2 and 3**, shown in figure 2 is communication between the mobile terminal to the base station and vice versa. Thus the parameter could either be determined using the mobile terminal or base station depending on where the connection is setup (i.e., which network elements sends the ATM SETUP connection message first).

As to **claims 7 and 8**, see page 1939 lower left-hand column. Also note applicant's admission in applicant's remarks filed 2/27/03 on page 5.

As to **claim 9 and 19**, the reference discloses many point-to-point applications. Such examples are shown in table 1 [page 1940] including end-to-end data connection for two-way presentation of text.

As to **claim 10 and 11**, the reference discloses more than one type of ATM class [page 1939, "Dynamic QoS Negotiation and Flow Control"]. This parameter could be determined for all class of quality of service in a packet radio network as is well known in the art for ATM.

As to **claim 13**, the reference discloses that ATM QoS can occur between the base station and the mobile station. Thus an ATM parameter can be passed between the two stations as is well known in the art prior to applicant's invention.

As to **claim 14**, shown in table 1 [page 1940] are various applications that can take advantage of ATM as is well known in the art. Thus applications such as video applications can take advantage of certain ATM parameters as is well known in the art.

As to **claim 15**, it is well known in the art that certain ATM variables can be set (e.g., SCR) such that if the value is below that variable (e.g., SCR), one level (or class) of service is offered and if that value increases to above that variable (e.g., SCR) then another level (or class) of service is offered (e.g., the data may or may not be discarded).

10. **Claims 4-6, 12, and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over "Mobile Multimedia: In Context to ATM Transport and GSM/GPRS Mobile Access Networks" by S.S. *Chakraborty* in view of "Real-Time Scheduling with Quality of Service Constraints" by *Hayman et al.*

Examiner notes information presented in the 35 U.S.C. 103 rejection over *Chakraborty* is used as a basis for forming this rejection.

As to **claims 4, 5, 6, 16, 17, and 18**, *Chakraborty* discloses various QoS parameters as is well known in the art with respect to ATM. Examiner takes Official Notice that such determining factors as basis of utilization ration, basis of time stamps, success probability of resource reservation attempts, waiting times of resources reservations are well known in the art with respect to Quality of Service in general for either wireless of terrestrial networks. Thus it would have been obvious to a skilled artisan to apply said determining factors for Quality of Service in a wireless network in general. Furthermore, Hyman et al. discloses more examples of such constraints.

As to **claim 12**, as shown in figure 2, *Chakraborty* only shows sending the information to one, general, base station from which it is sent to a, general, mobile station. However, examiner notes that in light of applicant's specification it would have been obvious for a skilled artisan to also send this information employed as crossover criteria to other base stations. The obvious motivation for doing so is to maintain the level of service through the mobile user's connection in different areas serviced by different base stations. Should this occur, it would have been obvious to have all the base stations in the network be able to perform some type of internetworking function (IWF) as suggested by *Chakraborty* such that a parameter can be employed as a crossover criterion.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Application/Control Number: 09/341,549
Art Unit: 2663

Page 10

DWR 
April 22, 2003

Derrick W. Ferris
Examiner
Art Unit 2663



MELVIN MARCELO
PRIMARY EXAMINER